

FISHLIFE

Part 7 in a series about inshore fish of Hawaii. The 12-part series is a project of the **Hawaii Fisheries Local Action Strategy**.



Photo: Bill Walsh/DAR



NAME **TAAPE**

SCAPEGOAT OR SCOURGE? THE SEARCH FOR ANSWERS ON TAAPE

BY SCOTT RADWAY

THE STORIES ABOUT TAAPE DEFINITELY PEAKED BRETT SCHUMACHER'S INTEREST. The blueline snapper was released in Hawaii in the '50s and fishermen today were reporting that the voracious fish was displacing prized species such as weke, opakapaka, even Kona crab, feeding on them and taking over their natural territory. Taape were Public Enemy No. 1.

Schumacher, a marine scientist, found the stories so compelling, he set out eight years ago to find out just how bad taape was. "In a lot of invasive studies, you find these dramatic impacts," says Schumacher, of the University of Hawaii at Manoa.

One big area of concern was that taape were eating goat fish eggs and baby goat fish. So he studied how taape behaved on the reef and where it forages for food. He also took a look at where goat fish eggs are found. The two didn't add up. Goat fish eggs are buoyant and float to the surface and then out to sea after spawning. Taape are bottom feeders.

"When goat fish come back in to shallow water they stay high in the water column. By the time they move down, they are two to three inches and too big for taape to eat them," Schumacher says.

As part of this study he also cut open hundreds of taape to see exactly what they were eating. It reinforced his findings. Schumacher found a load of small crabs and small fish. "They just don't eat one big steak for dinner, they go for the pupu platter," he says. Taape were eating small, non-commercial species such as gobies, blennies and dragonets.

Unlike other Pacific Islands, many people in Hawaii don't like to eat taape. Largely due to the size, color and lower values in the market, taape is not often fished and has thrived. Here's the taape basics.

- ◆ Taape are common in shallow waters, and generally prefer to school near coral reefs and artificial structures. They are also found as deep as several hundred feet.
- ◆ Taape become sexually mature at two years and slightly more than half their maximum length. That happens at roughly 8 inches. Taape typically eat small prey, such as the tiny crab pictured here next to a pin.
- ◆ Taape eggs drift out to sea and larvae hatchlings survive the first three to four days on the yolk sac. In four to nine weeks, the fish return to the reef.
- ◆ There is no predator that prefers taape and no disease or parasite that would impact only taape and not other local fish. The best control available is fishing pressure.

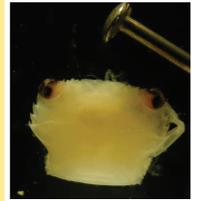


Photo: Brett Schumacher

Source: Brett Schumacher

Other species of concern were the aquarium trade favorite, Yellow tang. But Schumacher found Yellow tangs stay on the reef during the day and hide down in the coral at night. Taape however move off the reef at night to feed in sandy areas. "And I haven't found a single Yellow tang in the guts," he adds.

His findings were similar for Kona crabs. Even in fish taken from Kona crab rich areas off Penguin Banks, none were found. Schumacher says what is more likely is taape eat small crabs that look something like Kona crabs, but in fact are a species that does not grow large like the Kona crab.

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After cutting up hundreds of taape, what did scientists find they were eating? It's not what people thought.

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In all, some 400 taape, caught from all different depths and locations, were cut open to see what they are eating. "It starts to get to a point where we have done pretty thorough research and we haven't been able to find anything incriminating," Schumacher says.

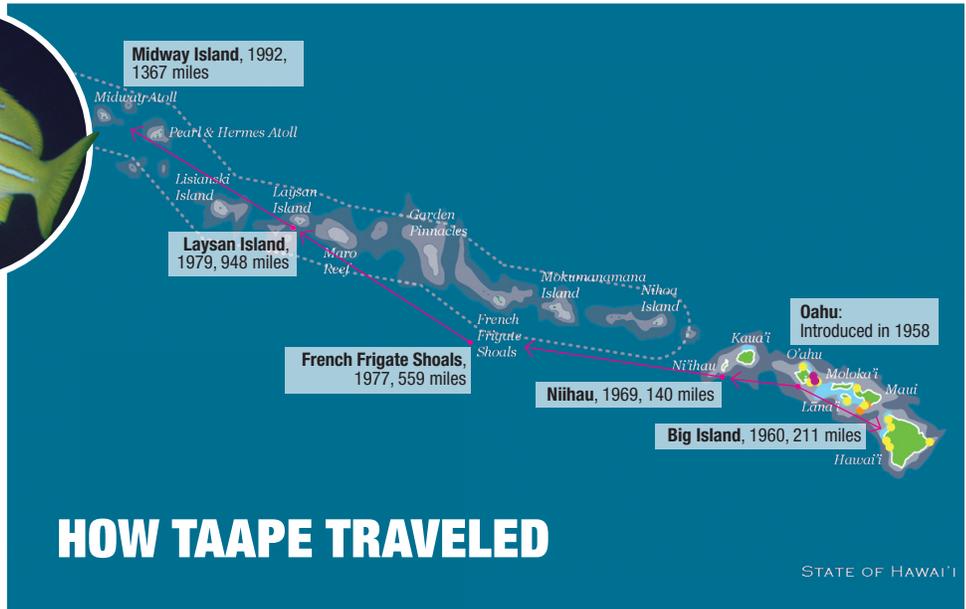
Similar findings on taape were found in an intensive deep-water study done in the late '90s. With submersibles, scuba dives, and a smattering of different fishing methods, taape were observed and caught from varying depths around the Main Hawaiian Islands. The concern was taape were displacing favored native snapper. The fish however rarely met. "We had hundreds of guts from all over the state and we did not find overlap," says Eric Conklin, of The Nature Conservancy.

Whether taape eat sought-after octopus called he'e is another area of concern for fishermen, but it is very difficult to identify octopus in taape guts. But Schumacher says although it would be worth looking into, given what we know about taape it is likely that they mostly eat smaller, non-food species.

One impact of taape on local goatfish that Schumacher did find is when two schools encountered each other in the water, the weke swam up to the top and taape stayed at the bottom. That can potentially make the weke more exposed to predators. But Schumacher found that behavior in a patchy reef area on Oahu. In places where there is more reef coverage it might not be a factor.

The scientific research sometimes appears contradictory to what fishermen are seeing on the reef where taape populations are swelling and favored local species are smaller and harder to find. But a likely reason for taape's success in Hawaii is that people generally, unlike other Pacific Islands, don't like to eat them. Largely due to the size, color and lower values in the market, taape is a not often fished. Conklin says a commercial fishery for taape was attempted in the '70s, but it lost traction quickly because of low profit margins.

Schumacher says it's likely time to move on from the belief that taape is the reason for declining local fish stocks. "Studies can take up time and energies that could be put into other things that are more productive," he says. "Scientifically, it is an interesting story, and some questions are still out there, but the big ones have been answered."



HOW TAAPE TRAVELED



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Photo: Bruce Mundy

TAAPE TIDES

Taape, or blueline snapper, was first introduced to Hawaii in 1955 and over the next six years, 3,200 individuals were released. Facing declining local fish stocks, managers intended to boost fisheries with a food fish from other Pacific Islands. Since taape has become one of the most hated fish by local fishermen, who believe it displaces local populations.

Since its introduction, taape moved an average of 37 miles per year, reaching the end of the Northwestern Hawaiian Islands by 1992. One reason it has so successfully dispersed is its fertilized eggs float out to sea and are carried by ocean currents. Studies have shown, however, that taape eat mainly small fish and crabs and are not the cause of declining local food fish.